



**OPERATING PERMIT (Conditional Major)** Issued Pursuant to Tennessee Air Quality Act

**Date Issued:**

**Permit Number:**

452596

**Date Expires:** April 30, 2014

**Issued To:**

Minco, Inc.

**Installation Address:**

510 Midway Circle  
Midway

**Installation Description:**

Source 01: Fused Silica Processing  
Baghouse Control

**Emission Source Reference No.**

30-0129

Source 03: Raw Material Handling and Storage  
with Railcar Unloading, Screw Conveyor,  
and Bucket Elevator Operations

Source 41: Blending and Screening Operation with Baghouse Control

Source 44: Ingot Peeling Process and  
Screening Operation with Baghouse Control

The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations.

**GENERAL CONDITION:**

1. The application that was utilized in the preparation of this permit is dated January 12, 2000, and signed by Leanna Harrison, Environmental Representative for the permitted facility. This application was updated with the applications dated January 10, 2002, and August 22, 2003, and the letters dated July 1, 2004, and September 3, 2004. Per the letter dated September 29, 2003, the Responsible Official for this facility is Seth Reeves, Project Engineer for the permitted facility. If this person terminates employment or is reassigned different duties such that they are no longer the responsible person to represent and bind the facility in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification shall be in writing and submitted within thirty (30) days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the facility in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

(conditions continued on next page)

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TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

NON-TRANSFERABLE

**POST AT INSTALLATION ADDRESS**

SECTION I: The following conditions shall apply to all sections of this permit unless otherwise noted.
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2. The permittee has elected to opt-out of being issued a major source operating permit pursuant to Division Rule 1200-3-9-.02(11)(a). The permittee would be considered a major source because their “potential to emit” value for particulate matter was greater than 100 tons per year at the time of application. The permittee has agreed to be subject to limitations in order to be below the major source applicability threshold for particulate matter of 100 tons per year.
3. Any non-compliance with any condition(s) of this permit set to restrain the “potential to emit” below the applicability thresholds of 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations shall be reported in writing to the Technical Secretary within three (3) working days of such discovery. This notification, at a minimum, shall include the identification of the source, identification of the permit condition(s) violated, and details of the violation.
4. A report stating the compliance status of this facility with **Conditions 13, 14, 21, and 25** shall be submitted by March 31 of every year, beginning in the year 2006. This report shall cover the preceding calendar year and shall include the records required by **Conditions 13, 15, 22, and 26**. The report shall be submitted to the Johnson City Environmental Assistance Center at the following address:

Johnson City Environmental Assistance Center  
Division of Air Pollution Control  
2305 Silverdale Road  
Johnson City, TN 37601-2162
5. Visible emissions from this facility shall not exhibit greater than twenty percent (20%) opacity as determined by EPA Method 9, as published in 40 CFR 60, Appendix A (six-minute average).
6. Fugitive emissions from this facility shall be controlled as specified in Rule 1200-3-8-.01. Specifically, no person shall cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-3-20. Fugitive emissions from this source shall be determined by Tennessee Visible Emissions Evaluation Method 4 as adopted by the Tennessee Air Pollution Control Board on April 16, 1986.
7. Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five (5) years.
8. The dust collected at the baghouse(s) shall be placed into either polyethylene bags or enclosed containers to prevent the generation of fugitive emissions during storage or shipment. The contained material shall be recycled on-site or transferred to the scrap pad for recycling off-site. Any materials not recycled shall be disposed off-site in an approved manner, in accordance with all applicable regulations.
9. To assure that the baghouse catch materials do not create a fugitive emissions problem while being disposed of or recycled, the openings of the collection bins and the collected materials shall be covered prior to any transfer from the control device.
10. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-3-20 of the Tennessee Air Pollution Control Regulations.
11. The issuance of this permit supersedes any previously issued permit(s) for this air contaminant source.
12. The permittee shall apply for renewal of this permit not less than sixty (60) days prior to the permit expiration date pursuant to Rule 1200-3-9-.02(3) of the Tennessee Air Pollution Control Regulations.

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SECTION II: SOURCE SPECIFIC CONDITIONS
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**30-129-01** Fused Silica Processing with Baghouse Control

This source consists of the following previously permitted emission sources:

Previous Source I. D.	Description
01	Four (4) Electric Arc Furnaces. Production capacity of 32 ingots per day, with a nominal input capacity of 16,000 pounds per batch. Baghouse Control.
02	Grinding, Screening, and Packaging Operation: Five (5) Roll Crushers, Six (6) Screens, Associated Conveying and Storage Equipment. Baghouse Control.
04	Jaw Crusher (16,000 lb/hr input capacity) with One Roll Crusher and Screen, Associated Conveyors and Bucket Elevators. Baghouse Control
39	Three (3) Ball Mills with Screens, Mechanical Conveyors, and Elevators; Magnetic Separator with Mechanical Elevator; Roll Crusher with Screens, Mechanical Conveyors, and Elevators; Two (2) Blenders with Screens, Mechanical Conveyors, Elevators, and Bagging Equipment. Baghouse Control.
40	Grinding, Screening, Packaging Operations (Ford): Roll Crusher, Elevators, Blending System, and Packaging Equipment. Baghouse Control.
42	Four (4) Electric Arc Furnaces. Baghouse Control.
43	Milling, A, B, and C Sources: Two (2) Ball Mills, Elevators, Associated Conveying and Packaging Equipment.

Emissions from Source 01 are controlled by the following baghouses.

Control Device/Stack I. D.	Stack Flow Rate (ft <sup>3</sup> /min)
Inside Fusion Baghouse	12,000
Outside Fusion Baghouse	12,000
No. 1 Grinding Baghouse	15,000
No. 2 Grinding Baghouse	15,000
Inside Grinding Baghouse	9,750
<b>Total Stack Flow</b>	<b>63,750</b>

13. The production rate of this source shall not exceed 32 ingots per day. Compliance with this limit shall be assured by maintaining a record of the number of ingots produced per day. This record must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. This record must be retained for a period of not less than five years.

This limitation is established pursuant to Rule 1200-3-9-.02(11)(a) of the Tennessee Air Pollution Control Regulations and the agreement letter dated July 1, 2003, from the permittee. The permittee has requested this limit to avoid Title V status.

(conditions continued on next page)

14. Particulate matter emitted from this source shall not exceed 0.02 grains per dry standard cubic foot of stack gases and 10.9 pounds per hour (lb/hr). This emission limitation is established pursuant to Rule 1200-3-7-.01(5) of the Tennessee Air Pollution Control Regulations and the agreement letter dated August 22, 2003, from the permittee. The permittee has requested this limit in order to avoid Title V status.
15. Compliance with **Condition 14** of this permit shall be assured by monitoring the pressure drop across each baghouse associated with this emission source, as indicated in a) through g), below:
- a) The permittee shall install a baghouse pressure gauge to measure the pressure drop (inches of water) across the baghouse. Within ninety (90) days of the issue date of this permit, the permittee shall compile thirty (30) days of pressure drop readings across the baghouse. The designated person(s) shall note any relevant baghouse conditions/problems/concerns when recording the values.
  - b) The pressure drop data, including a proposed minimum pressure drop value, shall be submitted to the Division no later than 15 days after completion of the readings. In addition to the pressure drop data, the permittee shall submit vendor recommended baghouse specifications/parameters/operating practices for proper baghouse operation at this time. The data and baghouse information shall be submitted to the Compliance Validation Program and the Johnson City Environmental Assistance Center at the following addresses:
 

Compliance Validation Program Division of Air Pollution Control 9th Floor, L & C Annex 401 Church Street Nashville, TN 37243-1531	Johnson City Environmental Assistance Center Division of Air Pollution Control 2305 Silverdale Road Johnson City, TN 37601-2162
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  - c) Upon review and approval of the test data by the Technical Secretary, the permittee shall demonstrate compliance with **Condition 14** by maintaining the approved minimum pressure drop across the baghouse.
  - d) The permittee shall record a minimum of one pressure drop reading per day in a handwritten log. The log shall include the time of the reading, the value read, the name of the plant operator recording the value, and any relevant comments as needed. The permittee shall note all days when the source is not operating.
  - e) If the pressure drop reading falls below the minimum value, the operator shall inspect the baghouse and initiate corrective actions to bring the pressure drop to above the minimum value.
  - f) The operator shall note all inspection findings and corrective actions in the log. For lower pressure drop reading(s) resulting from replacement of bags, the permittee shall record the deviation(s) as such in their daily records. Due allowance will be made for lower pressure drop reading(s) which follow replacement of bags, provided the permittee establishes to the satisfaction of the Technical Secretary that these lower readings resulted from bag replacement.
  - g) This log shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five (5) years.

**30-0129-03**

Raw Material Handling and Storage: Four (4) Storage Tanks and Sand Silo with Associated Conveyors.

16. The raw material input to this source shall not exceed 45 tons per hour of silica sand on a daily average basis and 146,000 tons of silica sand per calendar year.
17. Fugitive particulate matter emitted from this source shall not exceed 10.0 pounds per hour. This emission limitation is established pursuant to Rule 1200-3-7-.01(5) of the Tennessee Air Pollution Control Regulations and information contained in the agreement letter dated December 19, 1996. The permittee has requested this limit to reduce annual emission fees.
18. A log of the raw material input, in a form that readily shows compliance with **Condition 16**, must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. This record must be retained for a period of not less than five (5) years.

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**30-0129-41** Three Screening and Packaging Operations with Associated Elevators. Baghouse Control (1,500 ft<sup>3</sup>/min).

19. The material input rate to this source shall not exceed 2,200 lb/hr on a daily average basis. This limitation is established pursuant to Rule 1200-3-9-.02(11)(a) of the Tennessee Air Pollution Control Regulations and the agreement letter dated July 1, 2003, from the permittee. The permittee has requested this limit to avoid Title V status.
20. A log of the material input rate, in a form that readily shows compliance with **Condition 19**, must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. This log must be retained for a period of not less than five (5) years.
21. Particulate matter emitted from this source shall not exceed 0.25 grains per dry standard cubic foot of stack gases and 3.2 lb/hr. This emission limitation is established pursuant to Rule 1200-3-7-.04(2) of the Tennessee Air Pollution Control Regulations.
22. Compliance with **Condition 21** shall be assured as follows: The baghouse will be maintained, kept in good operating condition, and inspected semiannually to ensure compliance with the applicable particulate matter limits. Documentation of the semiannual inspections and any maintenance performed will be kept on site for a period of not less than five (5) years.

**30-0129-44** Ingot Peeling and Screening Operation: Chipping Hammer, Belt Conveyor, Vibratory Feeder, Roll Crusher, Vibratory Screen, and Packaging Operation. Baghouse Control (3,250 ft<sup>3</sup>/min)

23. The material input rate to the roll crusher shall not exceed 4,000 lb/hr of ingot skins on a daily average basis. This limitation is established pursuant to Rule 1200-3-9-.02(11)(a) of the Tennessee Air Pollution Control Regulations and the agreement letters from the permittee dated July 1, 2003, and July 1, 2004. The permittee has requested this limit to avoid Title V status.
24. A log of the material input rate to the roll crusher, in a form that readily shows compliance with **Condition 23**, must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. This log must be retained for a period of not less than five (5) years.
25. Particulate matter (TSP) emitted from this source shall not exceed 5.5 lb/hr. This emission limitation is established pursuant to Rule 1200-3-7-.03(1) of the Tennessee Air Pollution Control Regulations and the agreement letter dated July 1, 2003, from the permittee. The permittee has requested this limit in order to avoid Title V status.
26. Compliance with **Condition 25** of this permit shall be assured by monitoring the pressure drop across each baghouse associated with this emission source, as indicated in a) through g), below:
  - a) The permittee shall install a baghouse pressure gauge to measure the pressure drop (inches of water) across the baghouse. Within ninety (90) days of the issue date of this permit, the permittee shall compile thirty (30) days of pressure drop readings across the baghouse. The designated person(s) shall note any relevant baghouse conditions/problems/concerns when recording the values.

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- b) The pressure drop data, including a proposed minimum pressure drop value, shall be submitted to the Division no later than 15 days after completion of the readings. In addition to the pressure drop data, the permittee shall submit vendor recommended baghouse specifications/parameters/operating practices for proper baghouse operation at this time. The data and baghouse information shall be submitted to the Compliance Validation Program and the Johnson City Environmental Assistance Center at the following addresses:

Compliance Validation Program  
Division of Air Pollution Control  
9th Floor, L & C Annex  
401 Church Street  
Nashville, TN 37243-1531

Johnson City Environmental Assistance Center  
Division of Air Pollution Control  
2305 Silverdale Road  
Johnson City, TN 37601-2162

- c) Upon review and approval of the test data by the Technical Secretary, the permittee shall demonstrate compliance with **Condition 25** by maintaining the approved minimum pressure drop across the baghouse.
- d) The permittee shall record a minimum of one pressure drop reading per day in a handwritten log. The log shall include the time of the reading, the value read, the name of the plant operator recording the value, and any relevant comments as needed. The permittee shall note all days when the source is not operating.
- e) If the pressure drop reading falls below the minimum value, the operator shall inspect the baghouse and initiate corrective actions to bring the pressure drop to above the minimum value.
- f) The operator shall note all inspection findings and corrective actions in the log. For lower pressure drop reading(s) resulting from replacement of bags, the permittee shall record the deviation(s) as such in their daily records. Due allowance will be made for lower pressure drop reading(s) which follow replacement of bags, provided the permittee establishes to the satisfaction of the Technical Secretary that these lower readings resulted from bag replacement.
- g) This log shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five (5) years.

(end of conditions)